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10/529,101	03/24/2005	Ryoji Inoue	01272.020636	1959

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EXAMINER	
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ART UNIT	PAPER NUMBER
2861	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,101	INOUE ET AL.	
	Examiner	Art Unit	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-15,23 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-15,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/26/07 & 04/12/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Non-Final Rejection

Claim Objection

Claims 5 and 10 are objected to because of the following informalities:

In claim 5, line 2, "said fluid communication structure" should be changed to -- said liquid chamber-- for clearer language.

In claim 10, lines 2-3, "consuming section" should be changed to --liquid chamber-- for clearer language.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 4-15 and 23-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4-11 and 35 of Pub. No. 2004/0061748A1 and 1-5 of Pub No. 2005/0068394. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim a fluid communication structure comprising:

- a liquid containing section (equal to a first ink storage area);

- a liquid chamber (equal to a second ink storage area);

- a liquid consuming section (equal to a print head);

- plural communication channels (a plurality of communication paths);

- a substantial closed space (a hermetically closed space); and

- a gas exists inside the closed space, the gas can be transferred to said liquid containing section via a part of said plural communication channels (equal to a gas present in the second ink storage area can be transferred to the first ink storage area through at least one other communication path; wherein the first ink storage area has a space to take in the gas transferred from the second ink storage area).

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-8, 10-11, 13-14, and 23-24 are rejected under 35 USC 102 (a) as being anticipated by Kataoka et al. (JP Pat. 05-096744).

Kataoka et al. discloses in Figure 6 ink supply mechanism for an ink jet printer comprising:

- a liquid chamber (11) communicating with said liquid consuming section (2) (Figure 6);

- plural communication channels (18, 20) for providing communication between said liquid chamber (11) and said liquid containing section (3), wherein said liquid chamber (11) forms a substantial closed space except said plural communication channels (18, 20) and said liquid consuming section (2), and in a state where a gas (7) exists inside the closed space, the gas can be transferred to said liquid containing section (3) via a part of said plural communication channels (18, 20) (Figure 6);

- wherein said liquid chamber (11), in terms of its position during liquid consumption, is positioned substantially below said liquid containing section (3) and positioned substantially above said liquid consuming section (2) with reference to a vertical direction (Figure 6);

- wherein said plural communication channels (18, 20) have different heights of their opening positions in said liquid chamber (11) side with reference to a vertical direction (Figure 6);

- wherein in accordance with a relationship between a pressure difference originating from a water head of the liquid corresponding to a difference among the vertical heights of openings of said plural communication channels (18, 20), inside said liquid consuming section (2) and a difference among pressures originating from meniscuses formed by the liquid in the individual communication channels, an operation is performed such that, the gas (7) in said closed space is transferred to said liquid containing section (3) via the part of said plural communication channels, while the liquid is moved from said liquid containing section (3) to said liquid consuming section (2) via another part of said plural communication channels (18, 20) (Figure 6);

- wherein only the part of said plural communication channels (18, 20) is formed such that a par of the openings inside said liquid consuming section (2) comes into contact with an inner wall of said liquid consuming section (2) (Figure 6);

- wherein only the part of said plural communication channels (18, 20) is configured such that its opening inside the liquid chamber (11) is always in contact with a liquid present in said liquid chamber (11) (Figure 6);

- wherein inner walls of said plural communication channels (18, 20) have different contact angles with the liquid (ink) (Figure 6);

- a recording head (2) for ejecting an ink;

- a liquid chamber (11) communicating with said recording head (2);

- an ink tank (3) for containing the ink;

- plural communication channels (18, 20) for providing communication between said liquid chamber (11) and said ink tank (3), wherein said liquid chamber (11) forms a substantial closed space except said plural communication channels (18, 20) and said recording head (2), and said ink tank (3) has means (20) for adjusting a pressure inside the system (Figure 6);

- wherein said pressure adjusting means (20) performs the pressure adjustment so that a pressure that prevents leakage of the ink from said recording head (2) and that permits an ink ejecting state of said recording head section acts inside the system (Figure 6);

- the inkjet recording head (2) having the fluid communication structure integral therewith (Figure 6); and

- wherein an ink supply system is used to perform recording as holding said ink supply system such that said liquid chamber (11) is positioned substantially above said recording head (2) and said ink tank (3) is positioned substantially above said liquid chamber (11), in terms of their positions in use, with reference to a vertical direction (Figure 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 12 is rejected under 35 USC 103 (a) as being unpatentable over Kataoka et al. (JP Pat. 05-096744).

Kataoka et al. discloses the basic features of the claim invention was stated above except for "said plural communication channels have different inside diameters", since it is seen as a mechanical design expedient for one of ordinary skill in the art for the purpose of transferring fluid from fluid containers.

Allowable Subject Matter

Claim 9 would be allowable if provide a terminal disclaimer and rewrite to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record shows or suggests fluid communication structure for providing fluid communication between a liquid containing section for containing a liquid and a liquid consuming section for consuming the liquid comprising a part of plural communication channels that has a portion forming a groove extending along the communication channel and projecting from the opening of the communication channel inside a liquid chamber in the combination as claimed.

Claim 15 would be allowable if provide a terminal disclaimer and rewrite to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record shows or suggests an ink supply system comprising pressure adjusting means has means for placing said recording head into a negative pressure state relative to an atmosphere pressure and means for introducing atmosphere directly into said ink tank without via said liquid chamber in order to adjust the negative pressure state in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Monday to Friday from 9:00 A.M.to 5:30 P.M.. The fax number of this Group 2861 is (571) 273-8300.

Anh L Vo

June 22, 2007 primary Examiner